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10/823,405	04/13/2004	Katsunori Takahashi	9333/372	3235

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ALPINE/BHGL
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EXAMINER	
KARIMI, PEGEMAN	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/823,405	Applicant(s) TAKAHASHI, KATSUNORI	
	Examiner Pegeman Karimi	Art Unit 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 22 October 2007.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-20 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-20 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The amendment filed on 10/22/2007 has been entered and considered by the examiner.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Golddenberg (U.S. Patent No. 6,636,197).

As to claim 1, Goldenberg teaches a data processing system (200) comprising:

a display device (14) for displaying display screen elements (e.g. A, E, K, Volume, or Balance), a positioning of each of the display screen elements on a display being variable with respect to the other display screen elements (e.g. elements A, E, I, and M are on the top row; C, G, K, and O are on the third row; Volume and Balance are on the right side of the List elements on the display, col. 2, lines 29-30);

an input device (26) for applying a variable tactile sensation to a user (col. 6, lines 56-61)and

a processing device (202) for generating display screen data (i.e. A, E, or 22, col. 9, lines 35-38) comprising data for each of the display screen elements (col. 20, lines 50-55) and sending the display screen data to the display device (col. 9, lines 35-38);

wherein the processing device (202) dynamically generates (a rotary degree of freedom) a tactile sensation control pattern (col. 10, lines 11-15) that defines a force pattern associated with all of the display screen elements (col. 2, lines 34-42) as a function of an arrangement of the display elements to be displayed on the display screen (i.e. the arrangement of elements on the display 14 of Fig. 1) at the time that the display screen data is sent to the display device (col. 9, lines 35-38) and stores (206) the dynamically generated tactile sensation control pattern (i.e. position, motion, or degree of freedom, force magnitude, or force profile, col. 9, lines 28-35; col. 11, lines 63-67 through col. 12, lines 1-3);

so that subsequently the tactile sensation applied to the user via the input device (actuator), (col. 9, lines 13-17) while the display elements are being displayed on the display screen (i.e. A, E, K, Volume, and Balance) is calculated by the processing device in accordance with the dynamically generated tactile sensation control pattern (col. 2, lines 30-42).

As to claim 2, Goldenberg teaches the processing unit dynamically connects individual tactile sensation patterns (the detent force can be output when the cursor moves from one menu to a different menu item) in accordance with the arrangement of

the display elements to be displayed on the display screen (e.g. selected location of elements A, E, K, Volume, and Balance in Fig. 1, which are selected by a boarder) at the time that the display screen data is sent to the display device (col. 2, lines 30-42; col. 9, lines 65-67& col. 10- lines 1-2), and

stores (206) the connected individual tactile sensation patterns as the dynamically generated tactile sensation control pattern (i.e. position, motion, or rotation, col. 9, lines 28-35), the individual tactile sensation patterns indicate the relationship between input data generated by the input device (by rotating the knob 26 the user may select display elements at a rate determined by the amount of rotation, where at least one undisplayed menu item is scrolled onto the display device) and the tactile sensation for each display element (col. 6, lines 56-61) and are previously determined according to the types of the display elements (col. 2, lines 35-40; col.5, lines 57-67).

As to claims 3 and 15,Goldenberg teaches display elements (e.g. G, K, O, ..., etc., Fig. 1) that each have an individual tactile sensation pattern (col. 2, lines 34-36) comprise:

(1) display objects for accepting an operation selected by the user (col. 5, lines 64-67 & col. 20, lines 45-55) and

(2) a space between the display objects, the space being a portion on the display screen where the display objects are not present (col. 2, lines 30-32), (there are no display objects between the display elements).

As to claim 4, Goldenberg teaches the input device comprises an operation unit rotatable by the user (28) and

an actuator (216) for applying a force to the operation unit corresponding to the direction of rotation of the operation unit (col. 10, lines 11-15), the dynamically generated (rotation of knob) tactile sensation control pattern indicates a relationship between the rotational angle of the operation unit (12) and the force applied to the operation unit (col. 13, line 67 & col. 14, lines 1-3), and

the processing device controls the force applied by the actuator in accordance with the dynamically generated tactile sensation control pattern (col. 11, lines 63-67 & col. 12, lines 1-3).

As to claims 5 and 17, Goldenberg teaches the tactile sensation applied to the user is based upon the input data from the input device which indicates the positions of the display elements within a display range (col. 6, lines 56-61).

As to claims 6 and 18, Goldenberg teaches the input device (26) is a pointing device for inputting coordinates on the display screen (col. 5, lines 29-34 & lines 53-56).

As to claim 7, Goldenberg teaches the input device is a haptic commander (col. 6, lines 56-60).

As to claim 8, Goldenberg teaches a method for applying a variable tactile sensation to a user through an input device (col. 6, lines 56-61), the method comprising:

generating display screen data (col. 9, lines 35-38) comprising data for display elements to be displayed within a layout on a display device (e.g. elements A, E, I, and M are on the top row; C, G, K, and O are on the third row; Volume and Balance are on the right side of the List elements on the display), the layout of the display elements being variable (the layout of the left display elements are in a matrix form, and layout of the elements on the right side are like two rectangular boxes);

sending the display screen data to the display device (col. 9, lines 35-38);

dynamically generating (a rotary degree of freedom) a tactile sensation control pattern (col. 10, lines 11-15) when the display screen data is sent to the display device (col. 9, lines 35-38),

the tactile sensation control pattern

(1) defining a pattern of tactile sensation associated with all of the individual display elements to be displayed within a single screen layout (lay out of the alphabetic elements in Fig. 1), (col. 2, lines 34-42), and

(2) being dynamically generated (force feedback embodiment) by calculating a relationship between input data to be received (reading sensor signals) from the input device and the tactile sensation (col. 9, lines 13-17) in accordance with an arrangement of all of the display elements (e.g. A, E, I, or M) to be displayed within the single screen layout on a display screen of the display device (col. 2, lines 30-42; col. 9, lines 65-67 & col. 10, lines 1-2);

storing (206) the tactile sensation control pattern dynamically generated (i.e. position, motion, or rotation, col. 9, lines 28-35); and

subsequently controlling the tactile sensation associated with each of the display elements displayed based upon the input data from the input device (col. 2, lines 33-39), (col. 9, lines 13-17) in accordance with the stored tactile sensation control pattern (col. 2, lines 30-40), whereby a variable tactile sensation is applied to the user through the input device (col. 6, lines 56-61).

As to claim 9, Goldenberg teaches the tactile sensation control pattern is calculated by connecting separate tactile sensation patterns associated with individual display elements (the tactile sensation pattern for each element is separate, col. 2, lines 39-41) in accordance with the arrangement of the display elements to be displayed on the display screen at the time that the display screen data is sent to the display device (col. 2, lines 30-42) & col. 9, lines 65-67, col. 10, lines 1-2),

the separate tactile sensation patterns

(1) indicating the relationship between the input data and the tactile sensation for individual display elements (col. 2, lines 39-43) and

(2) are previously determined according to the types of the display element (col. 2, lines 35-40 & col. 5, lines 57-67).

As to claim 10, Goldenberg teaches the display elements having separate tactile sensation patterns (the tactile sensation pattern for each element is separate, col. 2, lines 39-41) comprise:

(1) display objects for accepting an operation selected by the user (col. 5, lines 64-67) and

(2) a space between the display objects (e.g. the space between elements A and E), the space being a portion in the display screen where the display objects are not present (col. 2, lines 30-32 & col. 20, lines 45-55).

As to claim 11, Goldenberg teaches the input device comprises an operation unit (26) rotatable by the user (28) and an actuator for applying a force to the operation unit corresponding to the direction of rotation of the operation unit (col. 10, lines 11-15), and the tactile sensation control pattern indicates a relationship between the rotational angle of the operation unit and the force applied by the actuator (col. 13, line 67 & col. 14, lines 1-3).

As to claim 12, Goldenberg teaches the tactile sensation applied to the user is based upon the input data from the input device which indicates positions of the display elements within a display range (col. 6, lines 56-61).

As to claim 13, a computer program stored on a storage medium which is read and executed by a computer system (col. 11, lines 48-53) comprising:

a display device (14) and

an input device (26) for applying a variable tactile sensation to a user (col. 6, lines 56-61),

the computer program directs the computer system to generate display screen data (col. 9, lines 35-38) comprising data for display elements to be displayed (e.g. A, E, I, M, Volume, and Balance), (col. 20, lines 45-55), an arrangement of the display elements being variable (e.g. on the first row are elements A, E, I, and M; on the second row are elemenets B, F, J, and N; On the right side are elemenets Volume and Balance, col. 2, lines 29-30);

send the display screen data to the display device (col. 9, lines 35-38);

dynamically (force process) calculate a relationship between input data to be received from the input device and the tactile sensation (col. 9, lines 13-17) in accordance with the variable arrangement of the display elements (e.g. on the first row are elements A, E, I, and M; on the second row are elemenets B, F, J, and N; On the right side are elemenets Volume and Balance, col. 2, lines 29-30) to be displayed on a display screen at the time that the display screen data is sent to the display device (col. 2, lines 30-42) & col. 9, lines 65-67, col. 10, lines 1-2), and

store the dynamically calculated relationship as a tactile sensation control pattern (col. 9, lines 28-35), so that the tactile sensation subsequently being applied to the user when the display elements are displayed on the display screen (col. 2, lines 33-39) is based upon the input data received from the input device; in accordance with the tactile sensation control pattern (col. 6, lines 56-62).

As to claim 14, this claim differs from claim 2 only in that the limitations "each of the display elements to be displayed has an associated individual tactile sensation pattern" and "the variable arrangement of the display elements". Goldenberg teaches each of the display elements (e.g. A, I, K, and Balance) to be displayed has an associated individual tactile sensation pattern (col. 2, lines 35-41 & col. 6, lines 56-61).

the variable arrangement of the display elements (col. 2, lines 29-30).

As to claim 16, this claim differs from claim 4 only in that the limitation "the computer system dynamically stores the tactile sensation control pattern as a pattern". Goldenberg teaches the computer system dynamically (force process) stores the tactile sensation control pattern as a pattern (col. 9, lines 30-35, col. 11, lines 63-67 & col. 12, lines 1-3)

As to claim 19, Goldenberg teaches a storage medium (206) which stores a computer program which is read and executed by a computer system (202, col. 9, lines 30-32) comprising:

a display device (14) and

an input device (26) for applying a variable tactile sensation to a user (col. 6, lines 56-61), wherein the computer program directs the computer system to generate display screen data (col. 9, lines 35-38) comprising data for display elements (col. 11, lines 63-67 & col. 12, lines 1-3),

an arrangement of the display elements being variable (e.g. on the first row are elements A, E, I, and M; on the second row are elemenets B, F, J, and N; On the right side are elemenets Volume and Balance, col. 2, lines 29-30);

send the display screen data to the display device (col. 9, lines 35-38);

dynamically (force process) calculate a relationship between input data to be received from the input device and the tactile sensation (col. 9, lines 13-17) in accordance with the variable arrangement of all of the display elements (e.g. on the first row are elements A, E, I, and M; on the second row are elemenets B, F, J, and N; On the right side are elemenets Volume and Balance, col. 2, lines 29-30) to be displayed on a display screen at the time that the display screen data is sent to the display device (col. 2, lines 30-42) & col. 9, lines 65-67, col. 10, lines 1-2),

store the dynamically calculated relationship as a tactile sensation control pattern (col. 9, lines 28-35); and

subsequently control the tactile sensation associated with each display element displayed on the display screen based upon the input data received from the input device (col. 2, lines 33-39), (col. 9, lines 13-17), in accordance with the tactile sensation control pattern (col. 2, lines 30-42).

As to claim 20, Goldenberg teaches the computer system:

(1) dynamically connects individual tactile sensation patterns (the detent force can be output when the cursor moves from one menu to a different menu item), each individual tactile sensation pattern being associated with a display element (col. 2, lines

39-43), in accordance with the variable arrangement of the display elements to be displayed on the display screen (e.g. selected location of elements A, E, K, Volume, and Balance in Fig. 1, which are selected by a boarder, col. 2, lines 29-30) at the time that the display screen data is sent to the display device (col. 2, lines 30-42; col. 9, lines 65-67 & col. 10, lines 1-2), and

(2) stores (206) the dynamically (knob's resistance) connected individual tactile sensation patterns as the tactile sensation control pattern (i.e. position, motion, or rotation, col. 9, lines 28-35), the individual tactile sensation patterns

(a) indicate the relationship between the input data and the tactile sensation (by rotating the knob 26 the user may select display elemenets at a rate determined by the amount of rotation, where at least one undisplayed menu item is scrolled onto the display device), (col. 6, lines 56-61) and

(b) are previously determined according to the types of the display elements (col. 2, lines 35-40; col. 5, lines 57-67).

Response to Arguments

4. Applicant's arguments filed 10/22/2007 have been fully considered but they are not persuasive.

In view of amendment claims 1-20, the reference of Goldenberg is used.

Applicant argues that Goldenberg does not disclose variable positioning of display elements with respect to one another. Goldenberg mentions a method for providing a scrolling list for use with a force feedback device causing a display of a

menu on a display device where the menu has menu items and at least one menu item is not displayed concurrently with other menu items. Goldenberg also mentions a rate control mode is entered where at least one undisplayed menu item is scrolled onto the display device at a rate determined by a distance that the knob is moved pas the menu boarder.

Applicant argues that Goldenberg does not disclose calculating a tactile sensation control pattern associated with all of the elements displayed in real-time when the display screen data is sent to the display device. Goldenberg mentions display can be coupled to microprocessor in some embodiments and a microprocessor or other controller can control the output to the display. Microprocessor also reads sensor signals and can calculate appropriate forces from those sensor signals, time signals, and force processes selected in accordance with a host command and output appropriate control signals to the actuator. Goldenberg also mentions that by adjusting the feel of the knob to clearly correspond to the context of the user interface wherein different interface modes have different tactile feel.

Applicant also argues that Goldenberg does not disclose connecting individual tactile sensation patterns in real-time when the display screen data is sent to the display device. Goldenberg mentions that display can be coupled to microprocessor in some embodiments and a microprocessor or other controller can control the output to the display. Goldenberg also mentions a jolt or detent output force can be output on the knob when each of the undisplayed items is scrolled onto the display screen wherein when the user moves from one of the menu items to another a resistive motion is felt.

This individual tactile can be felt as long as the user continues on selecting menus and menu items wherein the individual tactile are connected depending on the users selection.

Applicant argues that Goldenberg does not disclose individual tactile sensation patterns associated with spaces. Goldenberg in Fig. 1 shows a List of alphabets on the display, there are spaces between the alphabets and a cursor is displayed for highlighting one of the menu items. The highlighted cursor is located on the boarder of element K a space between the surrounding elements, depending on the rate control mode a detent force can be output when the cursor moves from one menu item to another.

Applicant argues that Goldenberg does not disclose connecting separate tactile sensation patterns to create an overall control pattern. Goldenberg mentions depending on the rate control mode a detent force can be output when the cursor moves from one menu item to another. This means that there are separate tactile sensation pattern for each of the menu items and by moving from one menu item to another the user can connect these patterns and create and overall control pattern.

Inquires

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pegeman Karimi whose telephone number is (571) 270-1712. The examiner can normally be reached on Monday-Thursday 8:00am - 5:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chanh Nguyen can be reached on (571) 272-7772. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Pegeman Karimi
12/29/07

Chanh Nguyen

CHANH D. NGUYEN
SUPERVISORY PATENT EXAMINER